

**IN THE CLAIMS:**

Please amend claims 1-4, 8, 15-17, 20, 22 and 27-28 as follows.

Please add new claims 29-30

1. (Currently Amended) A method, comprising:

receiving a packet;

determining a number of tokens in a token bucket;

calculating a probability for marking the received packet with a precedence level when the number of tokens in the token bucket are between a first threshold and a second threshold; and

marking the packet for a particular forwarding treatment using at least one token bucket,

wherein, there is an increased probability of marking the packet with a higher precedence level than a previously marked packet if the previously marked packet had a low precedence level.

2. (Currently Amended) The method of claim 1, further comprising:

marking the packet with a high precedence level if the number of tokens exceeds a first threshold.

3. (Currently Amended) The method of claim 1, further comprising:

marking the packet with a low precedence level if the number of tokens is less than a second threshold, wherein the second threshold is lower than the first threshold.

4. (Currently Amended) The method of claim 1, further comprising:

marking the packet with a low precedence value or a high precedence value based on the calculated probability when the number of tokens in the token bucket are between the first and second thresholds.

5. (Original) The method of claim 4, wherein the probability of marking the received packet with a low precedence is lowered when a previously received packet was marked with a low precedence.

6. (Original) The method of claim 1, wherein the number of tokens in the token bucket are inversely proportional to the amount of network traffic.

7. (Original) The method of claim 6, wherein the probability of marking the received packet with a low precedence is inversely proportional to the number of tokens in the token bucket.

8. (Currently Amended) A ~~packet marking~~ system, comprising:

a receiving engine ~~capable of receiving~~ configured to receive a packet ~~for marking~~  
to be marked;

a marker engine, communicatively coupled to the receiving engine, ~~capable of determining~~ configured to determine the number of tokens in a token bucket;

a probability engine, communicatively coupled to the marker engine, ~~capable of calculating~~ configured to calculate a probability ~~for marking to be used to mark~~ the received packet with a precedence level when the number of tokens in the token bucket are between a first threshold and a second threshold; wherein

the marking engine is configured to mark packet for a particular forwarding treatment using at least one token bucket,

wherein, there is an increased probability of that the packet will be marked with a higher precedence level than a previously marked packet if the previously marked packet had a low precedence level.

9. (Original) The system of claim 8, wherein the marker engine is further capable of marking the packet with a high precedence level if the number of tokens exceeds a first threshold.

10. (Original) The system of claim 8, wherein the marker engine is further capable of marking the packet with a low precedence level if the number of tokens is less than a second threshold, wherein the second threshold is lower than the first threshold.

11. (Original) The system of claim 8, wherein the marker engine is further capable of marking the packet with a low precedence value or a high precedence value

based on the calculated probability when the number of tokens in the token bucket are between the first and second thresholds.

12. (Original) The system of claim 11, wherein the probability of marking the received packet with a low precedence is lowered when a previously received packet was marked with a low precedence.

13. (Original) The system of claim 8, wherein the number of tokens in the token bucket are inversely proportional to the amount of network traffic.

14. (Original) The system of claim 13, wherein the probability of marking the received packet with a low precedence is inversely proportional to the number of tokens in the token bucket.

15. (Currently Amended) ~~A computer readable medium having stored thereon instructions for a processor to execute a method, the method comprising~~A computer program embodied on a computer readable medium, said computer program configured to control a processor to perform:

receiving a packet;

determining a number of tokens in a token bucket;

calculating a probability for marking the received packet with a precedence level when the number of tokens in the token bucket are between a first threshold and a second threshold; and

marking the packet for a particular forwarding treatment using at least one token bucket,

wherein, there is an increased probability of marking the packet with a higher precedence level than a previously marked packet if the previously marked packet had a low precedence level.

16. (Currently Amended) A system, comprising:

receiving means for receiving a packet;

determining means for determining a number of tokens in a token bucket;

calculating means for calculating a probability for marking the received packet with a precedence level when the number of tokens in the token bucket are between a first threshold and a second threshold; and

marking means for marking the packet for a particular forwarding treatment using at least one token bucket,

wherein, there is an increased probability of marking the packet with a higher precedence level than a previously marked packet if the previously marked packet had a low precedence level.

17. (Currently Amended) A method, comprising:

receiving a packet;

determining a number of tokens in a first token bucket;

determining a precedence value ~~for marking~~ used to mark the packet based on the determined number of tokens;

upgrading the determined precedence value to a higher precedence value when a pre-specified number of previously received packets were marked with the same determined precedence value; and

marking the packet for a particular forwarding treatment using at least one token bucket.

18. (Original) The method of claim 17, wherein the previously received packets were marked with the same determined precedence value in succession.

19. (Original) The method of claim 17, wherein the precedence value is inversely proportional to the determined number of tokens.

20. (Currently Amended) The method of claim 17, further comprising:  
determining a number of tokens in a second token bucket and wherein the determining a precedence value is based on the number of tokens in the second token bucket if the first token bucket has tokens less than a size of the received packet.

21. (Original) The method of claim 17, further comprising marking the packet with the determined precedence value or the upgraded precedence value.

22. (Currently Amended) A ~~packet marking~~ system, comprising:

a receiving engine ~~capable of receiving~~ configured to receive a packet;

a marker engine, communicatively coupled to the receiving engine, ~~capable of determining~~ configured to determine a number of tokens in a first token bucket and ~~capable of determining~~ configured to determine a precedence value ~~for marking~~ used to mark the packet based on the determined number of tokens; and

an upgrade engine, communicatively coupled to the marker engine, ~~capable of upgrading~~ configured to upgrade the determined precedence value to a higher precedence value when a pre-specified number of previously received packets were marked with the same determined precedence value, wherein

the marking engine is configured to mark the packet for a particular forwarding treatment using at least one token bucket.

23. (Original) The system of claim 22, wherein the previously received packets were marked with the same determined precedence value in succession.

24. (Original) The system of claim 22, wherein the precedence value is inversely proportional to the determined number of tokens.

25. (Original) The system of claim 22, wherein the marker engine is further capable of determining a number of tokens in a second token bucket and the marker

determines a precedence value based on the number of tokens in the second token bucket if the first token bucket has tokens less than a size of the received packet.

26. (Original) The system of claim 22, wherein the marker engine is further capable of marking the packet with the determined precedence value or the upgraded precedence value.

27. (Currently Amended) ~~A computer readable medium having stored thereon instructions to execute a method, the method comprising:~~A computer program embodied on a computer readable medium, said computer program configured to control a processor to perform:

receiving a packet;

determining a number of tokens in a first token bucket;

determining a precedence value ~~for marking~~ used to mark the packet based on the determined number of tokens;

upgrading the determined precedence value to a higher precedence value when a pre-specified number of previously received packets were marked with the same determined precedence value; and

marking the packet for a particular forwarding treatment using at least one token bucket.

28. (Currently Amended) A system, comprising:



receiving means for receiving a packet;

token determining means for determining a number of tokens in a first token bucket;

precedence value determining means for determining a precedence value for marking the packet based on the determined number of tokens;

upgrading means for upgrading the determined precedence value to a higher precedence value when a pre-specified number of previously received packets were marked with the same determined precedence value; and

packet marking means for marking the packet for a particular forwarding treatment using at least one token bucket.

29. (New) An apparatus, comprising:

a receiving engine configured to receive a packet to be marked;

a marker engine, communicatively coupled to the receiving engine, configured to determine the number of tokens in a token bucket; and

a probability engine, communicatively coupled to the marker engine, configured to calculate a probability to be used to mark the received packet with a precedence level when the number of tokens in the token bucket are between a first threshold and a second threshold wherein

the marking engine is configured to mark packet for a particular forwarding treatment using at least one token bucket,

wherein, there is an increased probability of that the packet will be marked with a higher precedence level than a previously marked packet if the previously marked packet had a low precedence level.

30. (New) An apparatus, comprising:

a receiving engine configured to receive a packet;

a marker engine, communicatively coupled to the receiving engine, configured to determine a number of tokens in a first token bucket and configured to determine a precedence value used to mark the packet based on the determined number of tokens; and

an upgrade engine, communicatively coupled to the marker engine, configured to upgrade the determined precedence value to a higher precedence value when a pre-specified number of previously received packets were marked with the same determined precedence value, wherein

the marking engine is configured to mark the packet for a particular forwarding treatment using at least one token bucket.